

# Two is better than one

“Sprayers are one of the most important parts of vegetable farms.”

## On Farm Opinion

After being left impressed with the accuracy and precision on board, Scottish vegetable producer, Drysdales, invested in not one, but two new Fendt sprayers to help boost on-farm efficiency. CPM finds out more.

By Charlotte Cunningham

**Overseeing the spraying of ground spanning more than 60 miles in the Scottish borders, Danny Milazzo is more than qualified when it comes to discussing the latest and greatest in sprayer technology.**

Danny is the main operator at Drysdales, a vegetable producer growing brassicas, sprouts, swedes and leeks for supermarket chains. On average, crops are treated up to ten times a season, so when it comes to investing in a sprayer, efficiency is key. “For me, sprayers are one of the most important parts of vegetable farms, so it’s vital that the kit is kept fresh and up-to-date.”

The business has got a pretty robust policy when it comes to machine rotation and replacement, he adds, and says it tries to replace equipment before it

becomes too costly to run with repairs and maintenance. “On-board technology is very important for us too — if something becomes available that can help us be more efficient with our applications, it’s always worth looking into.”

In 2020, when one of the previous sprayers hit the 10,000 hours milestone, it was an apt time to take a look at what the market had to offer. “Bills were getting high on the previous sprayer and we knew it was time to start thinking about investing in something new and, for me, the priorities are reliability, comfort and good back up.”

### Best tool for the job

Danny is heavily involved with the machinery decisions in the business, and with no particular loyalty to any manufacturer — instead more concerned about having the best tool for the job — he demoed all the mainstream brands in the UK. “We ‘ummed and ahed’ about whether it was worth trialling a Fendt too, so we got it out on demo and quickly realised how phenomenal the potential savings would be with this piece of kit.”

This coincided with the farm wanting to shift from 24m to 36m tramlines, making the self-propelled Rogator 645 a perfect choice. “We were actually so impressed by the machine, and we were able to negotiate such a good deal, that we actually ended up purchasing two of the Rogators,” he laughs.

However, just like the automotive

industry, COVID put a spanner in the works with production, meaning the farm ended up agreeing to take two ex-demonstrators, which arrived just ahead of the 2021 season before getting put straight out to work.

Looking at the nuts and bolts, how does the Rogator 645 work?

Marketed as ‘the self-propelled machine for professionals’ Fendt’s Rogator 600 series comprises three models — the 645, the 655, and the 665 — ranging in maximum tank capacities from 3800 litres to 6000 litres, explains Sam Treadgold, sales engineer at Fendt UK.

“The Rogator is the product of many years of development and is available in boom widths from 24m, right the way up ▶



Danny Milazzo believes the sprayer is one of the most important parts of vegetable growing.

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*Drysdale's grow vegetables for supermarket chains on ground spanning more than 60 miles in the Scottish borders.*

► to 39m meaning there is likely to be a solution for all growers.”

In the guts of the sprayer is a six-cylinder AGCO Power engine, delivering a pony count of between 235hp and 307hp, depending on the model, he adds. “The Power engine was designed to combine high power and torque with low fuel consumption, to deliver performance which doesn’t cost the earth. This is particularly beneficial in today’s climate with input costs — including diesel — continuing to rise at a rapid rate.”

The drive system also features Fendt’s continuously variable HydroStar CVT gearbox. “The variable displacement pump and variable wheel motors work



*Danny Milazzo's Rogator benefits from individual section control as well as the 2+2 DualSelect nozzle select tool.*



*Inside the cab, the Rogator 600 series benefits from ISOBUS as well as some of Fendt's in-house features including the OptiControl leaver and the Optiflow control panel.*

together within this system to ensure the right amount of oil and amount of torque is delivered when needed, at any moment in time.”

To offset the weight of all of this, the drive unit has been installed between the axles to ensure the centre of gravity isn’t compromised, he adds.

## Hydraulic upgrade

Ride height can be as low as 75cm or up to 120cm and, specifically relevant for vegetable growers, the single-beam chassis has been designed to always protect both the crops and the soil, says Sam.

Track width is fixed as standard, but there is the option to upgrade this to hydraulic. “Hydraulic track adjust is specifically targeted at contractors who may need to adapt their track widths between customers, for example. With this option, the width can be adjusted inside the cab from 1.8m up to 2.25m.

“If there’s a frequent width change

required, there’s also the option to pre-set and save this to the system.”

Other optional features include the OptiSonic boom height control — which was introduced in 2020 — as well as the option to upgrade to a stainless steel centrifugal pump to increase longevity. “Fendt sprayers used to use Norac boom height control systems, but we’ve now developed our own in-house set up which uses four sensors to control the constant optimum average height.”

Individual section control is another neat feature and valued by operators, adds Sam. “The nozzle body works in 50cm spacings, so on a 36m boom you would have 72 sections which all work independently of each other. It’s estimated that this saves 5-15% of the spray liquid costs.

“Fendt’s VariableRateControl system can also be added to increase that efficiency and precision — particularly important in challenging seasons like the one we find ourselves in.”

Inside the cab, all machines benefit from ISOBUS as well as some of Fendt’s in-house features including the OptiControl leaver and the Optiflow control panel — an electronic fill level indicator which allows automatic filling modes to be observed from the cab or at the filling station.

“For those with heavy workloads, the VarioDoc Pro feature could also be useful,” notes Sam. “This allows operators to easily and quickly export documentation to and from the terminal.”

There were a few teething problems with the sprayers, namely within the wiring harness, explains Danny. “We had a bit of an issue with moisture getting into the

## Continued learning through FSOOTY

With a keen desire to learn, Danny saw an opportunity to get involved with Syngenta’s Farm Spray Operator of the Year (FSOOTY) — leading him to be awarded second place at the competition showcased at last year’s Cereals Event, with the organisers saying the contest was incredibly tight.

“I followed FSOOTY for a while, but I left the industry for four years and went into construction instead. However, when I came back, I saw an advert for the competition on Facebook and thought it would be a good opportunity to push myself.”

Danny entered it twice — making the semi-finals on his first attempt, before claiming a very worthy silver place last year. “It was a brilliant experience, and if nothing

else it allowed me to proof test what we were doing. With many of the other contenders working mainly in arable crops, it was also a brilliant opportunity to pick up new tips and tricks that may help us vegetable producers and vice versa.

“I’m a big believer in that you can never learn too much and the amount of knowledge I gained through the experience was truly amazing. I’d encourage anyone to do it — there’s literally nothing to lose but potentially an awful lot to gain.”

The FSOOTY 2022 will be presented at Cereals 2022 — look out for more information on what’s in store in the event preview in next month’s *CPM*...



*The Rogator 645 working in leeks earlier this year.*

plugs, so both sprayers had to be fitted with a new harness. But since then, it's been so far so good.

"We also had a bit of difficulty setting up the slug pellet hoppers which we run on the back of the sprayer, but Fendt was very good and very quick at sorting both problems out."

What's more, working closely with Fendt meant Danny has been able to help the firm develop a solution to an auto-height issue — a challenge specifically likely to effect vegetable growers, he explains.

"In its standard form, there was a bit of a problem with auto-height on the crops, and this was to do with the sensors on the rows. We worked with the product support team over the winter to develop this and test potential solutions and they were able to tweak things so that we're now working off of six sensors, rather than four." This is now in the pipeline to become permanent solution within the design.

With a season under its belt, Danny says on-farm spraying efficiency has improved by 30% — largely due to the time-saving benefits. "My favourite feature has to be the 2+2 DualSelect nozzle selection tool," he adds. "It enables us to

run twin nozzles through one line and it runs off pressure and speed. This means it can self-regulate pressure when it hits a certain force and jump up to the next available nozzle. We've found the technology helps us to control droplet size too."

### Useful technology

Sam picks up the conversation and delves a little bit further into how this technology works. "The easiest way to think about it is that the system does all the work for you and will optimise nozzle choice and keep drift reduction down based on pressure. It can increase time-savings by a significant amount — as Danny has found — and although this isn't a standard feature, many users report back to say it is well worth the extra investment."

The move to 36m, combined with the Fendt technology, has helped identify further savings too, notes Danny. "On our previous machine, we ran seven-section auto shut off, which did cause some issues with overlap. When we moved from 24m to 36m, we looked into pulse width modulation, but it's horses for courses —



*The Rogator is the product of many years of development by Fendt, explains Sam Treadgold.*

were we really going to get a saving? We didn't think so.

"Instead, we see better results from the individual section control on the Rogator. With spacings every 50cm, we really do get that accuracy we're looking for. Not only does it minimise overlap, but also crop losses, while maximising chemical savings."

With backup also being a key priority for Danny, he says his local dealers have more than delivered. "We've worked closely with our local dealers, Ancroft Tractors, who have been really helpful. Having nearby support is essential for keeping the wheels turning."

Looking to this season, Danny says sprayers will get going by the end of March for weed control in early crops, followed by a two week break before getting started on the main crop towards mid-late April. "We're looking forward to seeing how we can push the Rogator as it enters its second season — but so far, we've been very impressed." ■



*Vegetable crops get treated between 10-12 times per season, meaning sprayer efficiency is key.*

### Farm facts

*Drydales, Cockburnspath, Berwickshire*

- **Farm area:** 809ha
- **Soil type:** Varied – from sandy loam to heavy clay
- **Cropping:** Leeks; swede; sprouts; brassicas
- **Cultivation equipment:** Sumo Trio cultivator; Kongskilde steerage hoes; Jones Engineering bed former; Standen Engineering double bed tiller
- **Drills:** Monosem precision pneumatic air seeder; Agricola precision pneumatic air seeder